Remarks

Reconsideration of this Application is respectfully requested. Claims 1-14 are pending in the application, with 1 and 8 being the independent claims. Based on the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding rejections and that they be withdrawn.

Statement of Substance of Interview

Pursuant to 37 C.F.R. § 1.133, Applicant provides the following statement of Substance of the Interview. Applicant wishes to thank Examiners Davenport and Rao for the courtesy of an interview with Applicant's representatives on October 17, 2007.

During that interview, the Patent Owner's representatives explained the differences between the invention, as recited in claim 1, and the cited reference, U.S. Patent No. 7,050,419 to Azenkot *et al.*

Rejections under 35 U.S.C. § 102

The Examiner has rejected claims 1-14 under 35 U.S.C § 102(e) as allegedly being anticipated by U.S. Patent No. 7,050,419 to Azenkot *et al.* (hereinafter, "Azenkot"). For the reasons set forth below, Applicant respectfully traverses.

Independent claim 1 is directed to a method for reusing Synchronous Code Division Multiple Access (S-CDMA) parameters to define the size of a Time Division Multiple Access (TDMA) minislot. The method includes the steps of:

> determining S-CDMA parameters to create a S-CDMA-type upstream channel descriptor (UCD) message by a cable modem termination system (CMTS);

forwarding said S-CDMA-type UCD message to a modem operating in TDMA mode by said CMTS;

calculating a TDMA minislot size by said modem using said S-CDMA parameters;

calculating a frame duration value and a minislots per frame value;

using said frame duration value and said minislots per frame value to maintain a minislot counter and a frame counter; and

constructing a relationship between a system timestamp counter, said minislot counter and said frame counter via a timestamp snapshot.

Azenkot does not teach or suggest each of the foregoing features of claim 1. For example, as will be explained below, Azenkot does not teach or suggest at least "forwarding said S-CDMA-type UCD message to a modem operating in TDMA mode by said CMTS."

It is first noted that TDMA and S-CDMA are two **different** multiple access methods that allow two or more devices, such as cable modems, to transmit over the same physical medium and share a channel's capacity. In a typical cable modem system, data is transferred between a central location (i.e., a head end) and many cable modems over a shared channel. Each cable modem shares the channel using either TDMA or S-CDMA to transmit data upstream to the head end. A head end device is typically located within a cable modem termination system (CMTS) and uses a message to describe when and in what manner a cable modem can transmit information on an upstream channel. The message is referred to as an upstream channel descriptor (UCD) and **each UCD message is specific to either a TDMA or S-CDMA channel**. *See* specification, paragraph [0033]. Typically, a cable modem operating in TDMA mode receives and processes a UCD message that is specific to TDMA. Similarly, a cable modem

operating in S-CDMA mode receives and processes a UCD message that is specific to S-CDMA.

However, the method of claim 1 does **not** follow this typical UCD message scheme. In fact, claim 1 recites "forwarding [an] S-CDMA-type UCD message to a modem operating in TDMA mode by [a] CMTS." This feature of claim 1 is not taught by Azenkot. On the contrary, the section of Azenkot at column 30, lines 50-64 to which the Examiner referred does not teach or suggest this feature but merely describes frame alignment for a cable modem operating in S-CDMA mode. Azenkot makes it abundantly clear that column 30 is directed to describing minislot mapping for an SCDMA channel; only making reference to TDMA once to point out a fundamental difference in the two channel types at col. 30, lines 28-37. For this reason alone, this section cannot teach "forwarding an SCDMA type UCD message to a modem **operating in TDMA mode**" (emphasis added), as recited in claim 1.

The Examiner's explanation in the present Office Action, regarding the alleged teaching by Azenkot of the feature noted above, is unclear. The Applicant does not understand the Examiners statement: "Using the timestamp snapshot and parameters in the UCD, the cable modem can calculate the number of time counts per SCDMA frame, meaning that a SCDMA type UCD message is forward [*sic*] to a TDMA modem and minislot mapping the message to transmitted [*sic*]." *See* present Office Action, page 2. To the extent the statement is understood, Applicant believes that it is inaccurate. The calculation of time counts per S-CDMA frame does not mean that an S-CDMA type UCD message is forwarded to a modem operating in TDMA mode. In fact, this

calculation, as is well known to one of ordinary skill in the art, is done by a modem operating in S-CDMA mode, not TDMA mode.

Moreover, Azenkot teaches away from the present features of claim 1, stating that unlike TDMA, "an SCDMA frame is not necessarily a power of 2 multiple" and "therefore, an additional synchronization step is required." *See* Azenkot, col. 30, lines 28-35. Azenkot further states that the additional "step requires the CMTS to identify frame boundaries relative to the timestamp counter on a periodic basis" and this calculation, referred to as a timestamp snapshot, "must be sent in the UCD message for each upstream SCDMA channel so the CMs can stay in frame synchronization with the CMTS." *See* Azenkot, col. 30, lines 35-40.

However, the features of claim 1 include "forwarding [an] S-CDMA-type UCD message to a modem operating in TDMA mode" and, as a result, inherently forwards this timestamp snapshot to a modem operating in TDMA mode as well. As described in the specification of the present application (emphasis added):

> The present invention is a system and method for reusing its S-CDMA related hardware (e.g., timestamp, minislot and frame count hardware) and messaging to create an extended mode to DOCSIS 2.0, namely **to allow the TDMA channel to have any minislot size as is afforded to the S-CDMA channel**. This reuse of existing S-CDMA hardware to create the extended mode is accomplished without the burden (e.g., complexity, cost, and schedule) of additional hardware to perform a separate set of calculations. In order to accomplish the foregoing, the present invention chooses parameters to put into a S-CDMA-type UCD message such that when that UCD message is interpreted by both the cable modem and CMTS hardware as though it were an S-CDMA message, the result is a TDMA minislot size that represents a desired integer number of ticks per minislot. The invention also periodically constructs the relationship between the system timestamp count, a channel's minislot count and the frame count via a **timestamp snapshot**.

See specification, paragraph [0017]. Therefore, even when operating in TDMA mode, the cable modem receives and processes a timestamp snapshot, unlike Aznekot, which describes the timestamp snapshot as an "additional synchronization step" necessary only for S-CDMA upstream channels. See Azenkot, col. 30, lines 28-35. Furthermore, Azenkot specifically makes reference to the fact that TDMA frames, unlike S-CDMA frames, are limited to power of 2 sizes. However, a benefit of "forwarding [an] S-CDMA-type UCD message to a modem operating in TDMA mode," as recited in claim 1, is that TDMA frames are no longer limited to power of 2 sizes. This benefit is noted in paragraph [0017] of the present specification reproduced above. Therefore, it cannot be said that Azenkot teaches or suggests "forwarding [an] S-CDMA-type UCD message to a modem operating in TDMA mode."

Because Azenkot does not teach or suggest each and every feature of claim 1, it cannot anticipate that claim. Dependent claims 2-7 are also not anticipated by Azenkot for the same reason as independent claim 1 from which they depend and further in view of their own respective features. Accordingly, Applicant respectfully requests that the rejection of claims 1-7 under 35 U.S.C § 102(e) be reconsidered and withdrawn.

Independent claim 8 recites "forwarding [an] S-CDMA type UCD message to a modem operating in TDMA mode." As described above with respect to claim 1, Azenkot does not teach or suggest this feature. Therefore Azenkot cannot anticipate claim 8. Dependent claims 9-14 are also not anticipated for the same reasons as independent claim 8 from which they depend and further in view of their own respective features. Accordingly, Applicant respectfully requests that the rejection of claims 8-14 under 35 U.S.C § 102(e) be reconsidered and withdrawn.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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